

TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 04OPLA273
to be issued to:

Pioneer Natural Resources, USA
Tamburelli Ranch Compressor Station

Las Animas County
Source ID 0710077

Prepared by Geoffrey Drissel
September 2012

I. Purpose:

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewal operating permit proposed for this site. The original Operating Permit was issued January 1, 2007. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted December 17, 2010, previous inspection reports and various e-mail correspondence. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:

This facility consists of two 3,300 HP, two 3,100 HP and two 2,370 HP compressor engines, two 152 HP generator engines and two glycol dehydrators. The facility compresses coal-bed methane gas for sales to a pipeline, and is defined under Standard Industrial Classification 1311. The compressor engines are equipped with oxidation catalysts to control CO, VOC, and formaldehyde emissions. The generator engines are installed with NSCR to control emissions

of NO_x, CO, VOC and formaldehyde. The engines are fueled with coal seam gas.

The facility is located in Las Animas County in southwestern Colorado. New Mexico is an affected state located within 50 miles of the plant. The Great Sand Dunes National Monument and Wheeler Peak National Wilderness Area (located in New Mexico) are Federal Class I designated areas located within 100 kilometers of the plant.

The area in which the plant operates is designated as attainment for all criteria pollutants. Based on the information provided by the applicant, this source is categorized as a minor stationary source for PSD purposes. Facility wide emissions are as follows:

<u>Pollutant</u>	<u>Current PTE (tpy)</u>	<u>2010-2011 Actual (tpy)</u>
NO _x	143.9	98.1
VOC	17.8	12.5
CO	64.8	45.2
Formaldehyde	8.8	6.2

Potential emissions are based on emission limits in the current Operating Permit. Actual emissions are based upon a field inspection report submitted in January 2012. This source is required to provide an updated APEN for each emission unit in the event that emissions of NO_x increase 5% or 50 tons per year and/or CO or VOC increase 5 tons per year above the level reported on the last APEN submitted to the APCD. The source indicated in their application that they are not subject to 112(r), the Accidental Release Requirements.

MACT Applicability

HHH – Natural Gas Transmission and Storage:

The Tamburelli Ranch Compressor Station is not a natural gas transmission and storage facility as described in 40 CFR Part 63 Subpart HHH, “National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage”, and thus is not subject to this MACT.

HH – Oil and Natural Gas Production Facilities:

Under the provisions of 40 CFR Part 63 Subpart HH, “National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities” (Oil and Natural Gas Production MACT), only HAP emissions from glycol dehydrators and storage vessels with the potential for flash emissions need to be aggregated to determine whether the facility is a major source for HAPs for production field facilities. The Tamburelli Ranch Compressor Station meets the definition of a production field facility, and includes two glycol dehydrators and no storage vessels with the potential for flash emissions. PTE from the glycol dehydrators combined are less than 10 tpy of each individual

HAP and less than 25 tpy of total HAPs. Therefore, the facility is not subject to the MACT HH requirements that apply at major HAP sources.

The Oil and Natural Gas Production MACT includes requirements for triethylene glycol (TEG) dehydrators at area sources of HAPs, but exempts TEG dehydrators with actual average benzene emissions of less than 0.9 megagrams per year from control requirements and/or operating limitations. Benzene emissions from each dehydrator at this facility are less than 0.9 megagrams per year and the dehydrators are therefore subject only to the requirements to establish the exemption and maintain records (40 CFR §§63.764 (e)(1) and (d)(1)).

Note that the dehydrators at the facility have previously been designated as insignificant activities. However, these dehydrators are now subject to the area source requirements of MACT HH and are no longer exempt from APEN filing requirements (Regulation No. 3, Part A, II.D.1), and are no longer exempt from construction permitting requirements (Regulation No. 3, Part B, II.C) because the area source requirements of MACT HH have been adopted and promulgated into Colorado Regulation No. 8 at this time.

ZZZZ – Stationary Reciprocating Internal Combustion Engines:

Under the rules for reciprocating internal combustion engines, for production field facilities, only emissions from glycol dehydrators, storage vessels with the potential for flash emissions, reciprocating internal combustion engines and combustion turbines need to be aggregated to determine if the facility is a major source for HAPS. Total HAP emissions for this facility, based on permitted production, have been calculated to be less than major source levels. MACT ZZZZ requirements for engines at major sources of HAPs therefore do not apply.

MACT ZZZZ includes requirements for engines located at area sources of HAPs. Based on manufacturing dates and commencement of operation dates, MACT ZZZZ requirements apply to the engines at this facility, which are considered to be remote stationary RICE as defined in MACT ZZZZ. Four of the lean burn engines, as well as the two rich burn engines, are considered existing and must comply with the requirements set forth in ZZZZ. Two of the lean burn engines (P002 and P006) commenced construction after June 12, 2006 and thus are considered new engines for the purposes of ZZZZ. These engines are only required to meet the conditions of NSPS JJJJ.

NSPS Applicability

KKK - Onshore Natural Gas Processing Plants

NSPS KKK describes requirements for limiting emissions of fugitive VOC's from onshore natural gas processing plants. The Tamburelli Ranch Compressor Station does not meet the definition of an onshore gas processing plant and thus

is not subject to this NSPS Subpart.

JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

NSPS JJJJ includes requirements for spark ignition internal combustion engines that commenced construction (i.e., ordered by the owner or operator) after June 12, 2006 and manufactured on or after July 1, 2007 (40 CFR §60.4230(4)) or commenced modification or reconstruction after June 12, 2006 (40 CFR §60.4230(5)). Based on construction and manufacturing date records provided by Pioneer, NSPS JJJJ requirements do not apply to these engines.

Reg 7 Applicability

Section XVII.D - Section XVII.D applies statewide and requires that glycol dehydrators at natural gas compressor stations with actual uncontrolled emissions equal to or greater than 15 tons of VOC per year install air pollution control equipment to reduce those emissions by at least 90 percent. The actual uncontrolled VOC emissions from these dehydrators are less than 15 tons per year and this requirement does not apply to this facility.

Section XVII.E.2.b - Section XVII.E.2.b applies statewide to engines that commenced construction or relocation into Colorado after July 1, 2007 (for engines greater than 500 horsepower). The engines at this facility were constructed before this date, with the exception of one engine (P002) that was constructed after July 1, 2007. Therefore, the following standards from XVII.E.2.b apply to P002:

NO_x: 2.0 g/hp-hr
CO: 4.0 g/hp-hr
VOC: 1.0 g/hp/hr

Section XVII.E.3.b - Section XVII.E.3.b applies statewide and requires all existing natural gas-fired lean burn engines with manufacturer's nameplate design rating greater than 500 hp to install and operate an oxidation catalyst by July 1, 2010. All lean burn engines at this facility are currently operated with oxidation catalysts.

Compliance Assurance Monitoring

Uncontrolled NO_x and CO emissions from each of the engines are below the major source levels. Therefore, CAM does not apply to these units.

III. Discussion of Modifications Made:

Source Requested Modifications

The source requested that the following changes be made to the renewal Operating Permit:

- Revisions to the Responsible Official and Facility Contact Person
- Updating of the engine serial numbers
- Recognition of the area source status of the TEG dehydrators with regard to the applicability of NESHAP Subpart HH
- Relaxation of the portable monitoring frequency from quarterly to semi-annually (this was not incorporated because the Division portable monitoring language specifically designates quarterly monitoring)

Other Modifications

In addition to the requested changes, the Division has included changes to make the permit consistent with recently issued permits, to include comments made by the EPA on other Operating Permits, to reflect updated and current Regulatory language, as well as to correct errors or omissions identified during review of this renewal. These changes are as follows:

Section I - General Activities and Summary

- Condition 1.1 was revised to reflect the most current facility configuration.
- Condition 1.4 was revised to reflect the most recent references.
- Condition 2 was revised to reflect the most current language regarding the facility AOS
- Condition 3 was revised to reflect the most current language regarding the PSD status of the source.

Section II - Specific Permit Terms

- The language regarding the presumption of compliance with the opacity standard if natural gas is used as fuel was updated to reflect the current version.
- Language was added to the Caterpillar engine conditions regarding the applicability of NESHAP Subpart ZZZZ and Colorado Regulation No. 7.
- Specific conditions regarding the two TEG dehydrators were added concerning the applicability of NESHAP Subpart HH.

Section III – Permit Shield

- The shield citation was updated to reflect the most current reference.

Section IV - General Conditions

- The General Conditions section was replaced with the most current version.

Appendices

- Appendices B and C were revised to reflect the current versions.
- The EPA addresses in Appendix D were updated.
- Appendix G (Applicability Reports) was added as part of the AOS update.

IV. Greenhouse Gasses:

The potential-to-emit of greenhouse gas (GHG) emissions from this facility is less than 100,000 TPY CO₂e. Future modifications greater than 100,000 TPY CO₂e may be subject to regulation (Regulation No. 3, Part A, I.B.44).